Amendment to the Specification:

Please replace paragraph 001 with the following amended paragraph.

001 This application is a continuation-in-part of application serial number 09/498,504 filed February 3, 2000, now United States patent no. 6,752,150.

Please replace paragraph 017 with the following amended paragraph:

017 There will now be described preferred embodiments of the invention, with reference to the drawings, in which:

Fig. 1 is a diagram illustrating central sleep apnea;

Fig. 2 is a diagram illustrating one embodiment of the rebreathing apparatus of the present invention;

Fig. 2A is a diagram illustrating use of the embodiment of Fig. 2 with a dental appliance;

Figs. 2B and 2C and 2D illustrate two embodiments of an oral appliance of Fig. 2A;

Fig. 3 is a diagram illustrating central sleep apnea respiration;

Fig. 4A is a diagram of one embodiment of the present invention using a passive loop gain modulation for ventilization stabilization using a single pre-set gas flow pressure from a blower;

Fig. 4B is a diagram of an alternate embodiment of the system of Fig. 4A using a flow meter and a computer;

Fig. 5 is a diagram of one embodiment of the present invention which uses computer control of the blower pressure to modify the vent pressure from the blower during certain periods of a sleep cycle;

Fig. 6 is a diagram of an embodiment of the present invention which uses computer control of a dead space attached to valves so as to cause rebreathing during certain periods of a sleep cycle;

Fig. 7 is a diagram of one embodiment of the present invention using a recirculator to increase rebreathing during certain periods of a sleep cycle;

Figs. 8A - 8F are diagrams depicting air flow accorded in tubing connecting between the blower and the mask;

Fig. 9 depicts the changes in V_{ret} and V_{wash} that occur when pulmonary ventilation is stimulated by increasing arterial P_{CO2};

Figs. 10, 11 and 12 are diagrams that illustrate the dependence of V_{ret}, V_{ED} and T_{FRAC} on $\underline{V}_E$;

Fig. 13 is a diagram that illustrates the relationship of $\underline{V}_A$ and $\underline{V}_E$ at the four levels of $\underline{V}_B$;

Fig. 14 is a diagram illustrating the general dependence of the loop gain on the ratio log $\underline{V}_E/\underline{V}_A$;

Fig. 15 is a diagram that illustrates the breathing air flow in the tube of a conventional CPAP system;

Fig. 16 is a diagram that illustrates the normal breathing flow in the tube of the embodiment of Fig. 4A;

Fig. 17 is a diagram that illustrates overbreathing flow in the tube in the embodiment of Fig. 4A;

Fig. 18A is a diagram of an embodiment of the present invention in which the size of the exit tube of the mask is varied slowly over the patient's sleep cycle;

Fig. 18B is a graph illustrating one example of changing of the exit hole size during the night, for the apparatus of Fig. 18A; and

Fig. 19 is a diagram of an alternate embodiment using the blower output as an active control device to adjust the level of rebreathing by a patient.

Please replace paragraph 031 with the following amended paragraph:

031 The system of Fig. 4A has the advantage that it does not require active control of the blower pressure. The patient can be checked into a sleep center and the correct blower pressure and patient interface exit hole size set. Thereafter, the system can be placed on the

patient's airway every night without requiring an expensive controller-based system. The preset blower gas pressure depends upon the air flow resistance caused by the ~~exit~~ patient interface 64, the normal exhale pressure and the overbreathing exhale pressure. If the gas-supply pressure system is an air blower 60, then by modifying the revolutions per minute of the air blower, the preset gas flow pressure can be set.

Please replace paragraph 033 with the following amended paragraph:

033 Examples of an oral appliance 25 are illustrated in more detail in Fig. 2B and Fig. 2C and Fig. 2D. In Fig. 2B, the oral appliance 25 is a dental appliance. In Fig. 2B, the oral appliance 25 is designed for fitting within the teeth and has an upper tray 25A that fits between the lips and teeth of a patient, and a lower tray 25B that provides a sealing surface for the lips to rest on. An opening 25C in the center of the oral appliance 25 of Fig. 2B communicates with a CPAP hose connector 25D to provide CPAP pressure delivery. The oral appliance 25 of Fig. 2C is fitted to a patient's mouth directly onto the lips, without using the teeth. The oral appliance 25 of Fig. 2C and Fig 2D is held on a patient with a mask 27 that fits around a patient's airway and is secured with the use of straps and a pad 29A at the back of the patient's head. A tube 29B with normal bias ports 29C blocked, and low-flow bias flow port 29D, connects to the CPAP apparatus through CPAP connection 29E. The length of the tube 29B allows for a controlled amount of rebreathing.

Please replace paragraph 034 with the following amended paragraph:

034 A feature of the mode of action of the technology described in this patent document relates to the behaviour of the system during hyperventilatory periods. At these times, when such a hyperventilatory phase occurs, the patient generates a large tidal volume and short duration of expiration. Together, these induce rebreathing of expired gas that has flowed retrogradely into the CPAP conduit 29B connecting the CPAP blower to the patient interface such as oral appliance 25. Patients with central sleep apnea using Low Flow CPAP nightly in the home may find that, during periods of hyperventilation, mouth leaks may occur of sufficient

magnitude to vitiate the rebreathing of exhaled gasses. For such patients, it is preferable to use a dental appliance 25 to apply CPAP pressure to the mouth together with nasal occlusion to eliminate leaks from the nose. Data from studies on patients using a dental appliance and nasal occlusion revealed that the therapy was effective in resolving the central sleep apnea and that during hyperpnic phases no leak of exhaled gasses occurred. For effective application of Low Flow CPAP an oral interface, such as the oral appliance 25, should be used in combination with nasal occlusion. Nasal occlusion may be obtained through plugs inserted in the nostrils or an external U-shaped clamp 29F (Fig. ~~2C~~ 2D) similar to what would be used by a swimmer.

Please replace paragraph 068 with the following amended paragraph:

068 Under resting conditions or when no central sleep apnea respiration is detected, bias flow is held relatively high so that wash ~~voluke exceds~~ volume exceeds the volume of gas expired into the tube. Accordingly, when inspiration begins, the reservoir tube has been washed completely with bias flow, and the patient inspires room air. Thus, no external dead space has been added when the patient is breathing normally and no ventilatory periodicity is detected by the computer. When the computer 222 detects ventilatory periodicity, bias flow is varied in synchrony with the periodicity. Specifically, when instantaneous ventilation is greater ~~thant he~~ than the moving average, bias flow is reduced so that wash volume is less than expired tidal volume. This causes rebreathing and decreases loop gain of the system. During periods of underbreathing, bias flow is maintained at high values so that no rebreathing occurs. The volume of gas resident in the reservoir tubing 226 at the end of expiration (i.e., the rebreathing volume) is calculated on line and is adjusted to be proportional to the difference between instantaneous ventilation and moving average ventilation. Thus, dead space increases progressively as overbreathing occurs, thereby minimizing the effect of the excessive ventilation on arterial blood gases. This, in turn, minimizes the duration of the apnea or magnitude of hypopnea that follows the overbreathing and stabilizes ventilation.